TermiNet®

Products

TermiNet
PAPER TAPE ACCESSORY (PTA)
OPERATOR'S MANUAL
GEK-49260A

Electronic Services - Los Angeles
M14579X

GENERAL ELECTRIC

The information contained herein does not purport to cover all details or variations in equipment nor to provide for every possible contingency to be met in connection with installation, operation, or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes, the matter should be referred to General Electric Company, USA.

TermiNet DATA COMMUNICATION PRODUCTS

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ENVIRONMENTAL SPECIFICATIONS

The TermiNet PTA is suited for use in non-airconditioned factory and office environments with the following characteristics:

TEMPERATURE

Operating: +32°F (0°C) to 110°F (43.3°C)

Storage: -20°F (-28.8°C) to 160°F (71.1°C)

RELATIVE HUMIDITY

5 to 95% with no condensation

ALTITUDE

Operating: 0 to 12,000 feet (0 to 3660 m) above sea level.

Storage: 0 to 50,000 feet (0 to 15,240 m) above sea level.

SECTION 2

CONTROL

GENERAL

The PTA control panel (Figure 2-1) is mounted in front of the reader and punch units. In addition to the controls located on the control panel, the following control switches are discussed below: the reader tape out sensor switch, reader tight tape sensor switch, punch backspace knob, punch tape out switch, and the main power switch located on the pedestal. This section also describes the effect of reader and punch control codes.

NOTE

In some cases, optional strapping arrangements provide different reactions to the various controls, sensor switches, and control codes. These variations are described in the text and the operator should determine which (if any) optional strapping arrangements are included in the particular printer being used.

READER CONTROLS

NOTE

Reader speeds of up to 120 characters per second are controlled by the printer.

CONTROL PANEL SWITCHES

See READER and EDIT controls on Figure 2-1.

OTHER READER CONTROLS

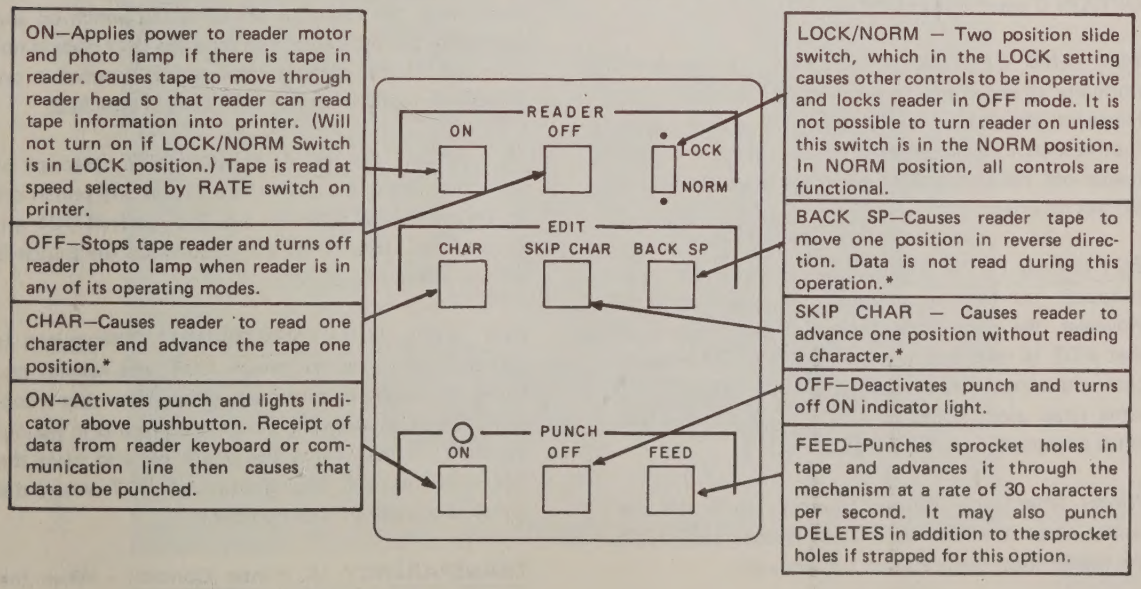
Power Switch—Power to the reader is controlled by the main power switch on the pedestal.

Tape Out Sensor Switch — This switch is located approximately 1¼ inches (3.18 cm) ahead of the read head and senses whether or not there is tape in the reader. When the end of tape is sensed, the reader is automatically turned off and it is inhibited from responding to operator controls or control codes. If there is no tape in the reader initially, the reader is inoperative.

Tight Tape Sensor Switch—This switch is mounted ahead of the read head and senses whether or not the tape is free to be pulled by the reader. If there is too much tension on the tape, the reader is automatically turned off before tape damage can occur.

READER CONTROL CODES

The following control codes are used to control the reader:


ON—Applies power to reader motor and photo lamp if there is tape in reader. Causes tape to move through reader head so that reader can read tape information into printer. (Will not turn on if LOCK/NORM Switch is in LOCK position.) Tape is read at speed selected by RATE switch on printer.
OFF—Stops tape reader and turns off reader photo lamp when reader is in any of its operating modes.
CHAR—Causes reader to read one character and advance the tape one position.*
ON—Activates punch and lights indicator above pushbutton. Receipt of data from reader keyboard or communication line then causes that data to be punched.
READER
ON
OFF
LOCK
NORM
EDIT
CHAR
SKIP CHAR
BACK SP
PUNCH
ON
OFF
FEED
LOCK/NORM — Two position slide switch, which in the LOCK setting causes other controls to be inoperative and locks reader in OFF mode. It is not possible to turn reader on unless this switch is in the NORM position. In NORM position, all controls are functional.
BACK SP—Causes reader tape to move one position in reverse direction. Data is not read during this operation.*
SKIP CHAR — Causes reader to advance one position without reading a character.*
OFF—Deactivates punch and turns off ON indicator light.
FEED—Punches sprocket holes in tape and advances it through the mechanism at a rate of 30 characters per second. It may also punch DELETES in addition to the sprocket holes if strapped for this option.

*Photolamp comes on and stays on.

PTA-5003

Figure 2-1. PTA Control Panel

PUNCH TAPE LOADING

CAUTION

Do not use tape made from mylar or any material other than paper or damage to the punch may occur.

Load paper tape into the punch as follows (refer to Figure 3-2):

1. Place a roll of one-inch paper tape on the supply spool. The tape reel comes apart by counter rotating the halves. Arrows on the reel show the proper direction.

CAUTION

Each new roll of paper tape has the lead end attached to the roll by means of a spot of glue. Tape containing this glue can jam the punch by sticking in the punch die. This problem can be avoided if the first few feet of tape from the spool are discarded.

2. Open punch unit hinged cover.

3. Start paper tape so reel rotates clockwise and tape comes off the back edge (as viewed from left side of the pedestal).

4. Pull tape hold-down clamp forward to expose the end-of-tape sensor bar.

5. Run tape over tab guides on the assembly cover and across the punch under the end-of-tape sensor bar, through the punch die and under the tape hold-down clamp.

6. If not already done, apply power by operating ON-OFF switch on the pedestal.

7. Move the hold-down clamp rearward to normal position. Press the hold-down clamp with enough force to indent the tape.

8. While pressing the hold-down clamp, press and hold the FEED pushbutton on the punch control panel until the sprocket engages with the punched sprocket holes (makes a sharp clicking noise).

9. Press ON pushbutton on punch control panel (red indicator above pushbutton will light).

10. Tape punch unit is ready for operation. Close the hinged cover. Tear tape at tape tear-off device (apply slight pressure to punch hinged cover while tearing). The shape of the tear-off device imparts an identifying arrow head and tail to show the start and finish ends of the tape.

NOTE

Failure to empty the chad box when it is full can cause tape jamming in the punch. It is good practice to empty the chad box each time a new roll of paper tape is installed in the punch. Where the punch is getting constant use, it may be more convenient to remove the chad box and place a large container (cardboard carton, etc.) directly under the punch for collecting chad.

CAUTION

Chad particles are sharp and therefore dangerous to the eyes. Also, the chad is highly combustible and should be disposed of with care.

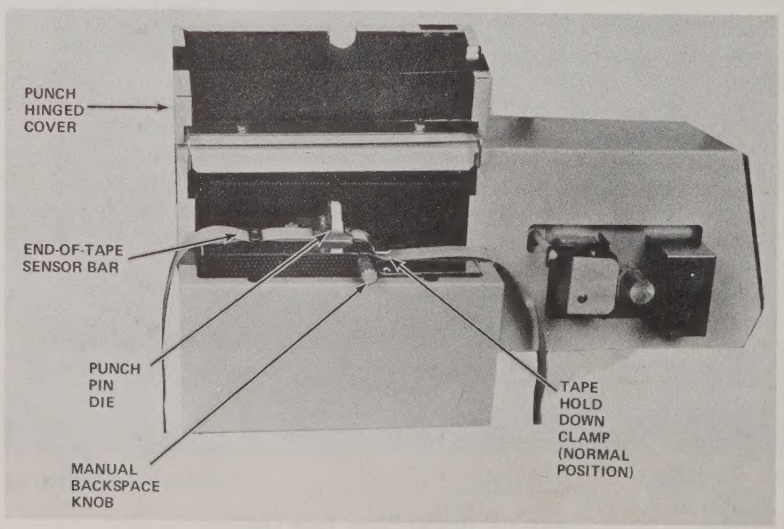


Figure 3-2. Punch Paper Tape Loading

READER OPERATION

After the paper tape has been loaded in the reader, the following functions can be performed with the printer.

TAPE READING

The photoelectric tape reader reads and transmits data at the speed set on the printer RATE switch.

The tape reader is started by pressing the reader ON pushbutton and stopped by pressing the reader OFF pushbutton. With the printer not in LOCAL and the Data Set Control Option installed, the tape is read as soon as the Clear-to-Send (CB) data set signal is received. If Clear-to-Send (CD) condition is lost, the reader stops and remains stopped until Clear-to-Send condition returns, at which time reading is resumed. When the Data Set Control Option is not present, the reader starts immediately without regard to Clear-to-Send.

TAPE EDITING WITH READER

When you punch a paper tape and wish to change the data on the tape or correct an error, scan the printed copy and identify the area to be changed. Then proceed as follows:

1. Place the uncorrected tape in the tape reader, turn on the printer, and select LOCAL mode.

2. Place the LOCK-NORM Switch in the NORM position.

3. Press the punch ON pushbutton, then the reader ON pushbutton. This causes the reader to read the tape and print out on the printer and simultaneously punch a new tape. Allow the reader to operate until the incorrect characters(s) is nearly reached. Then turn reader OFF. When the change area is approached, the error can be searched by the character by pressing the CHAR pushbutton on the reader.

4. For individual errors: Press the SKIP CHAR one or more times as required to advance over the error without reading it. For multiple errors: Turn the punch OFF, advance the reader past the defective section, then turn the punch ON.

5. Type in corrected character(s) from printer and it will punch on tape. When correction is completed, stop advancing one CHAR at a time and press READER ON pushbutton and the tape will pick up and continue duplicating the original tape.

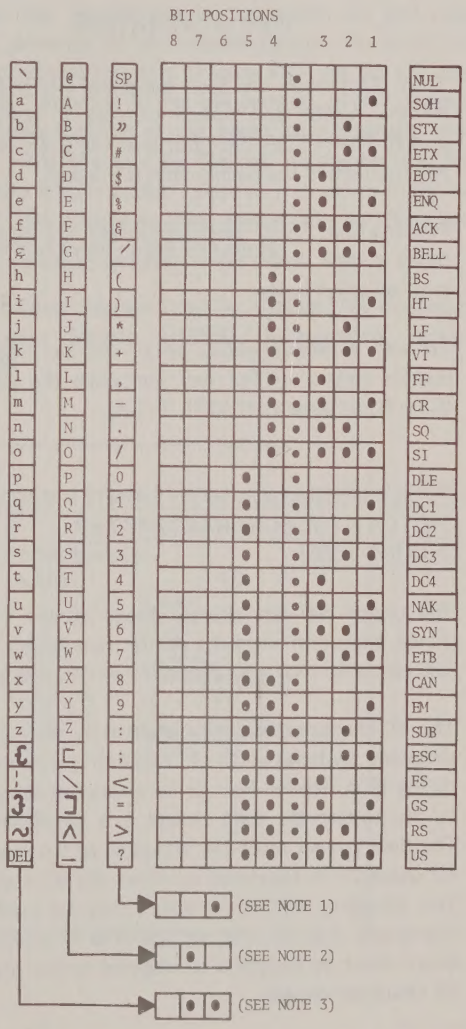
CAUTION

Do not attempt to move tape manually when reader lamp is on since damage to tape sprocket holes will result.

PUNCHED TAPE CHARACTER RECOGNITION

It is helpful in preparing and editing paper tapes to be able to recognize the ASCII punched characters on the tape in order to locate specific information.

Figure 3-3 provides a recognition chart for the ASCII Code.



NOTE 1: Bit 6 perforated for all characters in this set. Other bits as marked in main chart.

NOTE 2: Bit 7 perforated for all characters in this set. Other bits as marked in main chart.

NOTE 3: Bit 6 and 7 perforated for all characters in this set. Other bits as marked in the main chart.

NOTE 4: Bit 8 is a parity bit. It will be perforated or not, depending upon the type of parity used and upon the number of perforations making up bits 1 through 7 of a specific character.

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Figure 3-3. Punched Tape ASCII Character Recognition Chart

DUPLICATING TAPE DATA

The reader can be operated at the same time as the punch for making duplicate paper tape. If many duplicates are required, the punched tape can be inserted in the read head directly from the punch. If necessary, press FEED pushbutton to provide enough slack between the units to prevent activation of the reader tight tape sensor switch.

PUNCH OPERATION

Turn the printer on, then press the ON pushbutton on the reader and punch console to activate the punch. The red ON indicator over the ON pushbutton will light when the pushbutton is pressed.

Pressing the FEED pushbutton on the punch produces a tape leader with sprocket holes or a trailer with sprocket holes.

To turn a remote punch on or off, hold down the printer control (CTL) key and press the punch on (CTL R) or punch off (CTL T) key.

PUNCH OPERATION WITH PRINTER RATE SWITCH AT 120 CHARACTERS PER SECOND (CPS)

The punch will not operate above 30 cps. To allow punch operation when the printer rate switch is set to 120 cps, a fill character option must be exercised.

The fill character option is enabled by setting certain strapping switches on the PTLG/2 circuit board (refer to the PTA Service Manual for strapping details), and by formatting the data stream in a specific manner. The data stream must be formatted so that each non-fill character is separated by three (3) fill characters. The following ASCII characters may be used as fill characters: FS, GS, RS, or US. The PTLG/2 circuit board must be strapped to respond to the particular fill character chosen.

When the option is enabled and the data formatted properly, the punch will punch characters at 30 cps although the printer rate switch is set to 120 cps. This action is possible because the fill characters provide a delay time between the non-fill characters of a duration which allows each non-fill character to be punched. The circuit action of the PTLG/2 circuit board causes the chosen fill character to provide the needed delay time and to be transparent to the punch.

QUICK CHECK OF READER AND PUNCH OPERATION

One method of testing the units is by using a test tape:

1. Press the punch ON pushbutton, then press the tape FEED pushbutton to obtain approximately six inches of leader.

2. Type several DELetes from the printer.

3. Type reader off (CTL S).

4. Type your name, date, and company, etc.

5. Type several Cap U's and asterisks alternately.

6. Type anything (short saying, company, motto, etc).

7. Type Cap S, CR (RETURN), LF and CTL S (reader off).

8. Type several DELetes and then press punch tape FEED pushbutton to make a trailer (approximately six inches).

9. Tear tape at tape tear-off device (hold punch hinged cover while tearing).

10. Insert this tape into the reader.

11. Press reader ON pushbutton to read tape. Tape will stop at first reader off. Press reader ON pushbutton again.

12. Tape data will print out on the printer and be duplicated by the punch.

13. Verify printout and the duplicated tape; if correct, both units are working properly.

Save tape for a quick check on the reader and punch operation in the event a problem arises. If the tape does not print or duplicate correctly, or if the tape stops (press reader ON pushbutton) at other than reader off code (such as at Cap S) then a fault is present in the equipment. Call your serviceman for repair or adjustment. (Give him symptoms if possible.)

SECTION 4

TAKING CARE OF THE PTA

CLEANING

Minimal operator time is required to keep the reader and punch units operating correctly. A few important care hints are as follows:

1. Empty the chad box when installing a new roll of paper tape in the punch or whenever it is nearly full.

2. Clean the photosensor window and the forward and lower tape guides (see Figure 4-1) with denatured alcohol and a soft lint-free cloth or cotton swab (about every other time you put on a new roll of paper tape).

3. Use a dry, lint-free cloth to clean the condensing lens. Same interval as step 2.

Use a clean soft bristle brush (not typewriter hard bristle) to clean chad off the punch when cleaning other parts as described above.

CHAD REMOVAL FROM PUNCH DIE

Chad may accumulate in the punch die and cause tape jamming. If this occurs, remove the chad with the chad cleaning tool (Figure 4-2). To use the chad cleaner, insert it in the die portion of the punch in the same location as the paper tape normally occupies. Hold the tool by the end containing the hole and use scraping edge 1. Use sawing action to remove chad. Use edge 2 to clean severe jams by using both hands and sawing back and forth.

Extra chad cleaners may be obtained by contacting Customer Service, DCPBD, Waynesboro, Virginia 22980.

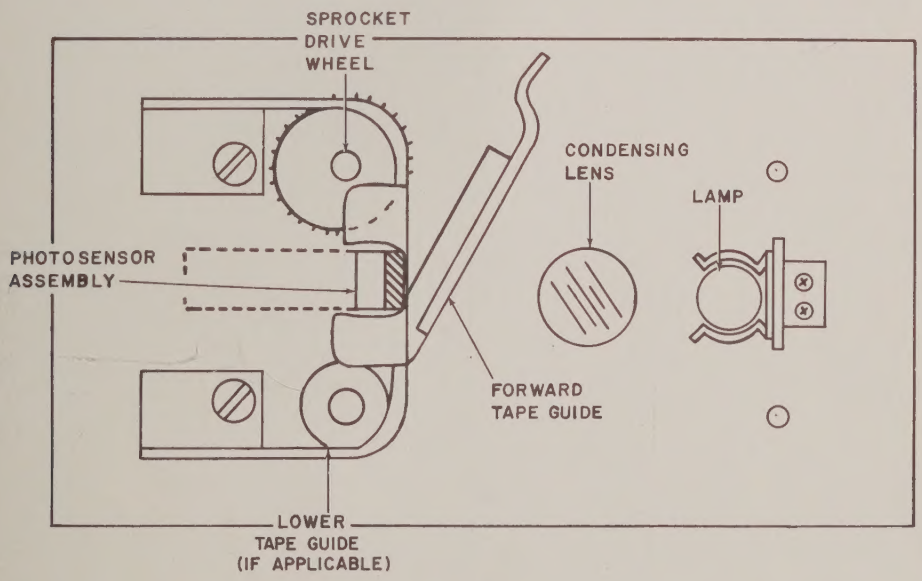

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Figure 4-1. Reader Components

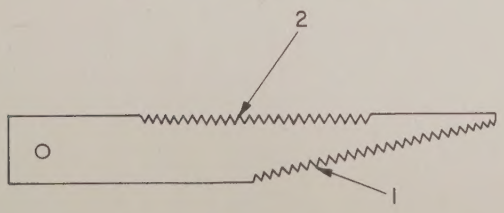

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Figure 4-2. Chad Cleaner

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